GLOSSARY **8302**
(Revises September 2001)

AAML: Agency Aviation Military Liaison

AGL: Above ground level.

A & P: FAA Certified Mechanic with airframe and power plant ratings.

Abort: To terminate a preplanned aircraft maneuver, for example, an aborted takeoff

Actual Time Of Arrival (ATA): Term used in flight planning and flight following to document the time of arrival at a point.

Actual Time Of Departure (ATD): Term used in flight planning and flight following to document the actual time of departure from a given point.

Air Attack: An operation involving the use of air tankers, helicopters, and air attack aircraft with the objective of suppressing wildfires.

Airspace Conflict: A near mid-air collision, intrusion, or violation of airspace rules.

Air Tactical Aircraft: Aircraft used by the Air Tactical Group Supervisor as an aerial observation point to direct the aircraft operation on an incident.

Air Attack Base: A facility where Air Attacks and Air Tankers are stationed and dispatched, and where fire retardant is mixed and loaded into airtankers.

Air Attack Officer: Administers air operations at air attack bases.

Aircraft: The term aircraft is used to refer to both airplanes and helicopters.

Aircraft Accident: An occurrence associated with the operation of an aircraft which takes place between the time any person boards the aircraft with the intention of flight and all such persons have disembarked, and in which any person suffers death or serious injury, or in which the aircraft receives substantial damage. (NTSB 830)

Air Crew Member: Additional crew member required for accomplishment of the mission such as flight attendant, smoke jumper manager, cargo loadmaster, photographer, observer, helicopter manager, etc. These positions usually do not require any Airman Certificate(s) or flight physical.

Aircraft Data Card: "Card" or documentation required to be onboard the aircraft that approves the aircraft for use, and the types of use.

Air Guard: A common frequency preset into each 9600 channel radio. The air guard frequency is 168.625 MHz.

Air Net: Applies to radio frequencies assigned for air communication.

Air Observer: An employee specifically assigned the duty of observation from an aerial platform.

Air Operations Branch Director (AOBD): The air operations director is ground-based and is primarily responsible for preparing the air operations portion of the Incident Action Plan.

Aircraft Incident: An occurrence other than an accident, associated with the operation of an aircraft which affects or could affect the safety of operations.

Air Route Traffic Control Center (ARTCC): Major FAA radar centers established to provide air traffic control service to aircraft operating on IFR (Instrument Flight Rules) flight plans within controlled airspace and principally during the en route phase of flight

Air Traffic Control (ATC): A service operated by appropriate authority to promote the safe, orderly, and expeditious flow of air traffic.

Air Tactical Group Supervisor (ATGS): The supervisor of the Air Tactics staff on an incident or project. The ATGS supervises the Air Tanker and Helicopter Coordinators and is responsible for tactical coordination of aircraft. The ATGS works for the Air Operations Branch Director.

Air Tac: Appropriate pronunciation for the ‘air tactical group supervisor’ or air tactical aircraft over an incident

Air Tanker: A fixed-wing aircraft designed or modified to transport and delivery of fire retardant solutions.

Air Tanker Coordinator: The air tanker coordinator is primarily responsible for coordinating assigned air tanker operations at the incident. (Includes USFS lead plane)

Air Traffic Clearance: Authorization by air traffic control to prevent collision between known aircraft, for aircraft to proceed under a specified traffic conditions.

Airman's Information Manual (AIM): A publication containing basic flight information and ATC procedures designed primarily as a pilot's instructional manual for the use of the national airspace system. May be called the FAR/AIM when selected Federal Aviation Regulations (FAR's) are included.

Airport/Facility Directory (A/FD): A publication designed primarily as a pilot's operational manual containing all airports, seaplane bases, and heliports open to the public including communications data, navigational facilities, and certain special notices and procedures. This publication is issued in seven volumes according to geographical area.

Airspeed: The speed of an aircraft relative to its surrounding air mass. The unqualified term "airspeed" means one of the following:

Indicated Airspeed: The speed shown on the aircraft airspeed indicator. This is the speed used in pilot/controller communications under the general term "airspeed" (refer to FAR 1).

True Airspeed: The airspeed of an aircraft relative to undisturbed air.

Airspace Classification: See current AIM manual for definition of Class A, B, C, D, E, G airspace.

Airway: A control area or portion thereof established in the form of a corridor, the centerline of which is defined by radio navigational aids. See Charted VFR Flyways.

Allowable Payload: The allowable payload represents the amount of weight that is available for passengers and/or cargo. On the load calculation form, the allowable payload is the operating weight subtracted from the selected weight.

Alumagel: An aluminum-based soap used to gel gasoline.

Altimeter Setting: The barometric pressure reading used to adjust a pressure altimeter for variations in existing atmospheric pressure or to the standard altimeter setting (29.92 inches).

Altitude: The height of a level point or object measured in feet Above Ground Level (AGL) or from Mean Sea Level (MSL).

MSL Altitude: Altitude in feet measured from mean sea level.

AGL Altitude: Altitude in feet measured from above ground level, that is, the vertical height of the aircraft above the ground.

Indicated Altitude: The altitude as shown by an altimeter.

Approach-Departure Path: The clear path selected for flight extending upward and outward from the touchdown pad and safety circle. The approach and departure path should not overfly structures, inhabited areas, personnel, and vehicle parking areas.

Armed: The arming of cargo hooks on helicopters for release of external loads, also applies to Air Tanker retardant delivery systems.

APU: Auxiliary Power Unit

ARFF: Aircraft Rescue Fire Fighters

Autorotation: A rotorcraft flight condition in which the lifting rotor is driven entirely by action of the air when the rotorcraft is in motion. (See FAR 1)

Aviation Hazard: Any condition, act or set of circumstances which compromises the safety of personnel or resources engaged in aviation activities. These hazards include inadequacies, deficiencies or unsafe practices pertaining to all aspects of aviation operation and activities.

Aviation Life Support Equipment (ALSE): This includes PPE, and other items like Personnel flotation devices/vests, oxygen units, survival vests.

Avionics: Equipment used for aircraft navigation and communication.

Basic empty weight: Weight of an aircraft which includes the aircraft and full operating oil and hydraulic fluids**.**

Base Heliport: A permanent helicopter landing area.

Base Leg: See Traffic Pattern

Bearing: The horizontal direction to or from any point, usually measured clockwise from true north, magnetic north, or some other reference point through 360 degrees.

Below Minimums: Weather conditions below the minimums prescribed by regulation for the particular action involved (for example, landing minimums, takeoff minimums, VFR flight minimums).

Blivet: Container for liquids (water, fuel, etc.) that is helicopter-transportable. Also known as a water bag.

Break/Left or Right: Means turn left or right. Applies to aircraft in flight, usually on the drop run and when given as a command to the pilot; it requires prompt compliance

Bucket: A rigid, collapsible, or collapsible-foldable container slung below a helicopter, usually to transport water, foam, or retardant.

Bureau of Land Management (BLM): Agency in the United States Department of the Interior.

Call-When-Needed (CWN): An aircraft hired on an intermittent aircraft use agreement.

Cardinal Directions: North, South, East, West. Used in giving directions and information from the ground or air in describing the fire.

Cargo Hook: Term commonly used to identify the load-carrying device mounted beneath the helicopter to which external cargo is attached. Cargo hooks usually have both manual and electrical quick-release mechanisms operated by the pilot,

Cargo Net: A polypropylene rope net with 6-inch centers. Net has minimum 1500 lbs. working strength with 3 to 1 safety factor (used in sling loading).

Cargo Rack Or Basket: A structure attached externally to a helicopter for transport of cargo.

Category: Used with respect to the certification, ratings, privileges and limitations of airmen, means a broad classification of aircraft. Examples include airplane, rotorcraft, glider and lighter than air.

Ceiling: The height above the earth's surface of the lowest layer of clouds or obscuring phenomena which obscures more than 60% of the sky and is not classified as thin or partial.

Center Of Gravity (CG): An imaginary point where the weight of an object may be considered to be concentrated.

CID: Chemical Ignition Device. (ping pong balls)

Civil Aircraft: Any aircraft other than a public aircraft or military aircraft.

Class: Used with respect to the certification, ratings, privileges, and limitations of airmen, it means a classification of aircraft within a category having a similar operating characteristic. Examples include single engine, multi-engine, land, water, gyroplane, helicopter, airship and free balloon.

Rotorcraft-load combination: The combination of a rotorcraft and an external-load, including the external-load attaching means. Rotorcraft-load combinations are designated as Class A, Class B, Class C, and Class D, as follows:

> **Class A rotorcraft-load combination:** One in which the external load cannot move freely, cannot be jettisoned, and does not extend below the landing gear.

Class B rotorcraft-load combination: One in which the external load is jettisonable and is lifted free of land or water during the rotorcraft operation.

Class C rotorcraft-load combination: One in which the external load is jettisonable and remains in contact with land or water during the rotorcraft operation.

Class D rotorcraft-load combination: One in which the external- load is other than a Class A, B, or C and has been specifically approved by the Administrator for that operation. Far 1

Closed Circuit Refueling (CCR): A fueling system designed to prevent spills, minimize fuel contamination, and prevent escape of flammable fuel vapors.

Configuration: How aircraft is equipped, outfitted, modified for a mission or segment of a mission. Also refers to use of flaps, landing gear to modify flight characteristics.

Congested Area: Area where aviation operation conducted at low-level altitudes may result in damage to property or injury to ground personnel (buildings or dwellings, recreational sites, transportation corridors, industrial properties, assemblies of persons, communications facilities, transmission lines, water resources.)

Common Traffic Advisory Frequency (CTAF): A frequency designed for the purpose of carrying out airport advisory practices while operating to and from an uncontrolled airport. The CTAF may be a UNICOM, Multicom, FSS, or tower frequency and is identified in appropriate aeronautical publications.

Compass Rose: A circle, graduated in degrees, printed on some charts or marked on the ground at an airport or heliport. It is used as a reference to either true or magnetic direction.

Constant Flow Tank System: A retardant delivery system installed in or on an aircraft, which is capable of producing exit flow at a constant rate.

Contact: Establish communication with (followed by the name of the facility and, if appropriate, the frequency to be used).

Contract Aircraft: An aircraft that has been approved for use by a formal contract. Generally, there is no monetary limitation on the extent of use of the contract aircraft. Contract aircraft may be either Exclusive-Use Contract or On-Call Contract aircraft.

Controlled Airspace: Airspace within which some or all aircraft may be subject to air traffic control (see FAR/AIM).

Copter: Helicopter

Course: The intended direction of flight in the horizontal plane measured in degrees from north.

Coverage Level: Amount of retardant measured in gallons per hundred square feet. (Level 1 = 1 gal./100 sq.ft)

Crew Shuttle: Transportation of crews to and/or from assigned locations on an incident.

Crosswind Leg: See **Traffic Pattern.**

Cut-Off: Thirty minutes prior to sunset.

CWN: See Call-When-Needed

CWN Manager: Individual who manages a CWN aircraft (usually in reference to fire CWN helicopters).

Deck: That part of the helibase operational area that includes the touchdown pad, safety circle, hover lanes, and external cargo transport area. It is also usually roped off with flagging.

Deck Coordinator (DECK): The deck coordinator is responsible for providing coordination of a landing area for personnel and cargo movement.

Density Altitude: The equivalent altitude, rather than the actual altitude, because of the effect of air temperature, humidity and atmospheric pressure.

Direct Attack: Control effort (retardant line, fireline) conducted at fire perimeter - usually under low fire intensity conditions.

Disc Area: The area swept by the blades of the rotor. This is a circle with its center at the rotor hub axis and a radius of one blade length.

Discrete Frequency: A separate radio frequency for use in air traffic control which reduces frequency congestion by controlling the number of aircraft operating on a particular frequency at one time.

Distress: A condition of being threatened by serious and/or imminent danger and requiring immediate assistance.

Divert: Change in aircraft assignment from one target to another or to a new fire.

Down Loading: The reduction in aircraft gross weight to provide a safety margin in the aircraft performance.

Downwind Leg: A flight path parallel to the target in sight, in the opposite direction of intended final approach.

Drift: The effect of wind on aircraft, or retardant drop or smoke.

Drop Zone: The area around and immediately above the target of a drop.

Dry Run: Indicates that the air tanker will "make a pass" over the target but will not drop.

Dry Storage: Refers to dry chemical retardants in storage at an air attack base. Available for mixing with water.

ELT: See Emergency Locator Transmitter

ETA: Estimated time of arrival. Term used in flight planning and flight following to estimate the time of arrival at a point.

ETR: Estimated time of return.

ETD: Estimated time of departure. Term used in flight planning and flight following to estimate the time of departure from a given point.

ETE: Estimated time enroute. Term used in flight planning and flight following to estimate the time enroute from one point to another

Emergency Locator Transmitter: A radio transmitter attached to the aircraft structure which operates from its own power source on 121.5 MHz and 243.0 MHz. It aids in locating downed aircraft by radiating a downward sweeping audio tone, 2-4 times per second. It is designed to function without human action after an accident.

Escape Route: The safest, quickest or most direct route between the firefighter's location and a safety zone.

Exit: Flight route away from an operations area or a command used to indicate the direction the Airtanker Coordinator wants the pilot to fly after a given maneuver. ("Exit southbound over the lake.")

Extend: To drop retardant in such a way that the load slightly overlaps and lengthens a previous drop. ("Extend the last drop.")

External Load: A load that is carried, or extends, outside of the fuselage.

FAA: Federal Aviation Administration.

FAR: Federal Aviation Regulations.(see **Federal Aviation Regulations)**

FAR - 91.137: Section which deals with temporary airspace restriction.

FAR/AIM: See **Airman's Information Manual.**

Fatal Injury: Means any injury which results in death within 30 days of the accident.

Feet Per Minute (FPM): Speed measurement commonly used to define the vertical speed of an aircraft such as the rate of climb or rate of descent.

Federal Aviation Regulations (FAR's): Regulations contained in 14 CFR governing the operation of aircraft in the United States.

Final Approach: See **Traffic Pattern**

Fire-Trol: Ammonium sulphate based long-term retardant. A brand name.

Fixed Tank: A tank mounted inside or directly underneath an aircraft which contains water or retardant for dropping on a fire.

Fixed Wing Coordinator: Non-fire operations. A non-fire airborne position supervised by the Air Tactical Group Supervisor. Assigns and supervises fixed wing aircraft. i.e. paracargo, SAR, spray project.

Flight Crew Member: A pilot , flight engineer, or flight navigator assigned to duty in an aircraft during flight time.

Flight Following: The method(s) and process(es) through which an aircraft is tracked from departure point to destination.

Flight Plan: Specified information relating to the intended flight of an aircraft that is filed with FAA or an agency office

FLIR: Forward Looking Infrared.

Flycrew: A handcrew of predetermined size transported to an incident via helicopter.

Fold-A-Tank: A portable, collapsible water tank with tubular frame. Manufactured in 600-, 1000-, and 1500- gallon sizes.

Fuel Cache: Selected locations where specified amounts of jet fuel are stored through the summer months. Fuel used is replaced immediately to maintain an adequate supply.

Fuel Tender: Any vehicle capable of supplying fuel to ground or airborne equipment.

Fugitive Retardant: A clear retardant, without iron oxide (red color agent), or a retardant with a red color agent that fades or becomes invisible after several days exposure to ultraviolet sun rays.

Forced Landing: A landing necessitated by failure of engines, systems, or components which makes continued flight impossible and which may or may not result in damage.

"g" or "g Load": Indicates stress and is measured in units of gravity.

Go Around: Do not drop, or do not land, make another approach. Be prepared for new instructions.

Global Positioning System (GPS): A world-wide navigation system that uses satellite signals to determine position. GPS is replacing LORAN as the preferred system for determining aircraft position.

GPU: See Ground Power Unit

Ground Effect: The effect that the ground has on the rotor/wing downwash. The ground deflects the downwash out at an angle requiring the helicopter/airplane to need less lift in order to perform.

Gross Weight: Total weight of an aircraft.

Ground Power Unit: Ground based unit for powering up all aircraft systems.

Ground Speed: The speed of an aircraft over the ground.

Grounded: Refers to an aircraft that is not airworthy, usually due to maintenance problems. May also refer to a pilot who is removed from flight status.

Gust Spread: The difference between the lowest and highest wind speed.

Hand Signals: Standard signals authorized for use by ground crews to direct aircraft.

Hazard Map: Map of the area of operations that shows all of the known aerial hazards, including but not limited to power lines, military training areas, hang gliding areas, etc.

Hazardous Materials: Hazardous materials are substances that are identified, classified, and regulated in the Code of Federal Regulations, Title 49 and Hazardous Materials Regulations 175. A hazardous material is a substance or material that has been determined by the Secretary of Transportation to be capable of posing an unreasonable risk to health, safety, and property when transported in commerce and which has been so designated.

Heavy Helicopter: 700 plus gallons bucket or tank. (ICS Type 1)

Helicopter Emergency Egress Devices (HEED III): An emergency air source designed for helicopter crews.

Helibase: A location within the general incident area for parking, fueling, maintenance and loading of helicopters. Accessible by roads and has communication facilities.

Helibase Manager (HEBM): Has primary responsibility for managing all activities at the assigned helibase.

Helibase Radio Operator: Is responsible for establishing communication among incident assigned helicopters and helibases, air attack supervisor, air operations director and takeoff and landing controller.

Helicopter Coordinator (HELCO): Is primarily responsible for coordinating tactical or logistical helicopter mission(s) at the incident. The helicopter coordinator can be airborne or on the ground operating from a high vantage point.

Helitender: A ground service vehicle capable of supplying fuel and support equipment to helicopters.

Heliport: A permanent facility for the operation of helicopters which has been built to FAA standards and which is marked on aeronautical charts. Natural resource agencies refer to agency heliports as permanent helibases.

Helispot: Area designated for landing helicopters without auxiliary facilities

Helispot Manager: The helispot manager is responsible for coordinating activities at a location where a helicopter can take off and land.

Helitack Captain: A trained, qualified person directly in charge of a helitack crew.

Helitack Crew: A crew of three or more individuals who may be assigned to operations or to support helicopter operations.

Helitack Crew Member: A firefighter trained in the use of helicopter accessories and techniques to attack and suppress fire.

Helitorch: Aerial ignition device suspended under the helicopter consisting of a tank, igniter, and electric pump that pumps out jellied gas used for setting controlled fire in wildland areas.

Hobbs Meter: Flight hour recording device.

Hold: An order given to a pilot to remain at a specified location.

Hot Loading: Loading of retardant while the aircraft engine(s)) are running.

Hot Refueling: The refueling of specifically equipped aircraft while the engine(s) are running.

Hover: A stationery flight condition.

Hover Ceiling: Highest altitude a helicopter can hover either In Ground Effect (IGE) or Out of Ground Effect (OGE).

Hover Check: Used to describe when a helicopter requires a stabilized hover to conduct a performance/power check prior to hover taxi, air taxi, or takeoff. Altitude of the hover will vary depending upon the purpose of the check.

Hover Hook Up: The attaching of a cargo lead line to a hovering helicopter.

Hover-In-Ground-Effect (HIGE): Operating at such an altitude (usually one-half the rotor diameter above the surface) that the influence of ground effect is realized.

Hover-Out-of-Ground-Effect (HOGE): Hovering without the benefit of the ground effect cushion. For any given altitude, hovering out of ground effect takes more power than hovering in ground effect.

Helistep: Loading or unloading a trained helitack crew from a hovering helicopter.

Hover Taxi: Used to describe a helicopter movement conducted above the surface and in ground effect at airspeeds less than approximately 20 knots.

IFR: Instrument Flight Rules.

IFR Condition: Weather conditions below the minimum for flight under visual flight rules.

IGE: (In Ground Effect) Hovering or flying at a height where an increase of performance is gained as a result of ground effect.

IHOG: Interagency Helicopter Operating Guide

ILS: Instrument Landing System.

Incident: An occurrence or event, either human-caused or natural phenomena, that requires action by emergency service personnel to prevent or minimize loss of life or damage to property and/or natural resources.

Indicated Air Speed (IAS): See **Airspeed.**

Indicated Altitude: See **Altitude.**

Instrument Flight Rules (IFR): Rules governing the procedures for conducting instrument flight. Also, a term used by pilots and controllers to indicate type of flight plan.

Instrument Meteorological Conditions (IMC): Meteorological conditions which can be expressed in terms of visibility, distance from cloud, and ceiling less than specified minimal for visual meteorological conditions.

Internal Payload: The amount of cargo an aircraft can carry internally and remain at or below maximum gross weight.

IR: Infrared

IR Groundlink: A capability through the use of a special mobile ground station to receive air-to-ground infrared imagery for interpretation.

IR Route: Military Training Route conducted under IFR. See Interagency Airspace Coordination Guide.

Jet-A: Most commonly used fuel used in turbine helicopter operations.

Jettison: To dispose of an unused load of retardant or to drop a load to lighten aircraft due to emergency.

KIAS: Knots Indicated Air Speed. See **Airspeed**.

Knot: A measurement of speed equal to one nautical mile per hour.

Landing And Takeoff Area: The landing and takeoff area contains touchdown pads and safety circles and includes that part of the helibase complex where flight operations are concentrated.

Large Aircraft (FAA): Aircraft of more than 12,500 pounds maximum certificated takeoff weight.

Latitudes & Longitudes: Coordinates given for aircraft navigation. Known also as "Lats & Longs".

Lead Plane: An airplane used to lead airtankers to a target.

Light Helicopter: 1 to 5 passengers and/or 100 plus gallons bucket or tank capacity. (ICS TYPE 3-4)

Live Run: A flight over the drop area in which a discharge of cargo or retardant/water, etc., will be made.

Load and Return: Order given to the pilot to pick up another load (Reload and Return) of retardant and return to the fire.

Load and Hold: Order given to pilot to pick up another load of retardant and wait at the reload point.

Longline: A line or set of lines, usually in 50' increments, used in external load operations that allow the helicopter to place loads in areas in which the helicopter could not safely land

Low Pass: Low altitude run over the target area. May be used by Airtanker Coordinator to get a close look at the target or to show an airtanker pilot a target that is difficult to describe. May be used by tanker pilot to get a better look at the target or to warn ground personnel of an impending drop.

Low Altitude: Aerial operations which take place below 1000 ft AGL.

Low Level: Aerial operations which take place below 500 ft AGL. Low level operations have specific carding and equipment requirements.

Manifest: A written list of personnel and/or cargo and their weights to be transported.

MAFFS: Modular Airborne Firefighting System.

Main rotor: Means the rotor that supplies the principal lift to a rotorcraft

Maintenance Deficiency: A defect or failure causing mechanical difficulties encountered in flight operations. Not specifically identified as an incident or aviation hazard.

Maximum Computed Gross Weight: The gross weight, obtained from the appropriate performance chart, which is the maximum weight appropriate to the applicable circumstances of configuration and/or environmental conditions.

Maximum Certificated Gross Weight: The absolute maximum allowable weight (crew, passengers, fuel, oil, fluids, cargo, and special equipment) as established by the manufacturer and approved by the Federal Aviation Administration.

Mayday Call: The international distress signal indicating that the pilot of an aircraft is experiencing an in-flight emergency.

Mean Sea Level (MSL): Commonly used in conjunction with a number of feet and, thereby indicating altitude above mean sea level, such as 10,000 feet MSL.

Medical Attention: An injury, less than serious, for which a physician prescribes medical treatment and charges for the medical service.

Memorandum Of Understanding: A written agreement between two or more parties.

Military Aircraft: An aircraft maintained and operated by an active or reserve component (all Reserve forces, as well as Army and Air National Guard) of the DOD, or by any active or reserve component of the U.S. Coast Guard (USCG). All references to "military aircraft" include both DOD and USCG aircraft.

Missing Aircraft: A missing aircraft is one that has not made a check-in and which has exceeded the fuel endurance specified on the flight plan or which was relayed to the flight following facility upon departure.

Mission Flight: These flights are defined by exclusion as all flights not meeting the definition of "point-to-point" flight. As such, mission flight requires work to be performed in the air (for example, retardant or water delivery, reconnaissance, etc.), or through a combination of ground and aerial work (for example, delivery of personnel and/or cargo from helibases to helispots or unimproved landing sites, rappelling or cargo letdown, horseherding, etc.).

Mix Crew: A crew of 1 to 5 persons whose specific task is to combine alumagel and gasoline or fire retardants at a designated airbase or helibase.

Mixmaster: Person responsible for mixing fire retardant or helitorch fuel.

Medical Certificate: Acceptable evidence of a pilot's physical fitness on a form prescribed by the FAA Administrator.

Medium Helicopter: 6 to 15 passengers and/or 300 plus gallons bucket or tank capacity. (ICS TYPE 2)

MHEM: Military Helicopter Manager

MOA: Military Operations Area. See Interagency Airspace Coordination Guide.

Moderate turbulence: Turbulence that causes changes in attitude and altitude, but the aircraft remains in positive control. Usually causes variations in indicated airspeed, produces strain against seat belts, and causes unsecured objects to be dislodged.

Monitor: When used in communications, to listen on a specific frequency and stand by for instructions or communications. Under normal circumstances, a frequency that is being monitored is not being used by the pilot for communications.

MOU: See Memorandum of Understanding. A written agreement between two or more parties.

MTR: Military Training Route. See Interagency Airspace Coordination Guide.

NAS: See **National Airspace System**

National Airspace System (NAS): The common network of U.S. airspace, air navigation facilities, equipment, and services, airports, and landing areas, aeronautical charts, information, and services, rules, regulations and procedures, technical information, and personnel and material. Included are system components jointly shared with the military.

National Transportation Safety Board (NTSB): The NTSB is charged with the responsibility to investigate civil transportation mishaps

Navigational Aid (NAVAID): Any visual or electronic device airborne or on the surface which provides point-to-point guidance information or position data to aircraft in flight.

NFDC: National Flight Data Center. See Interagency Airspace Coordination Guide.

N.I.F.C.: National Interagency Fire Center Boise, Idaho

Night: The hours between the end of evening civil twilight and the beginning of morning civil twilight or such other period between sunset and sunrise as may be specified by the appropriate authority. Note: Civil twilight ends in the evening when the enter of the sun’s disk is 6 degrees below the horizon and begins in the morning when the center of the sun’s disk is 6 degrees below the horizon.

Nomex: Fire resistant synthetic material used in the manufacturing of flight suits and pants and shirts used by firefighters.

Notice To Airmen (NOTAM): A notice containing information (not known sufficiently in advance to publicize by other means) concerning the establishment, condition, or change in any component (facility, service, or procedure of, or hazard in the National Airspace System) the timely knowledge of which is essential to personnel concerned with flight operations.

NTSB: See **National Transportation Safety Board**

Office of Aircraft Services: Office in the Department of the Interior with department-wide functions related to aircraft services and facilities.

OGE. Hovering or flying at a height where there is no performance aid from ground effect. (out-of-ground effect)

On-Call Contract: See **Contract Aircraft.**

One-Skid Landing: The maneuver of placing one skid of the helicopter on the ground, while the other is still above the ground.

On Target: Acknowledgment to pilot that the drop was well placed

Operating Weight: The equipped weight plus the weight of the crew and fuel.

Operational Hazard: Any condition, act or set of circumstances that exposes aircraft operations, associated personnel or equipment to unnecessary risk or harm.

Orbit: See **Hold**

Overdue Aircraft: An overdue aircraft is one that fails to meet a check-in specified on the flight plan.

Parking Tender: A person responsible for directing aircraft to a specific parking location.

Passenger: Any person aboard an aircraft who does not perform the function of a flight crew member or air crew member. See **Air Crew Member** and **Flight Crew Member.**

Payload: That portion of an aircraft's USEFUL LOAD that does not include fuel. Payload refers to passengers, cargo, or other material carried for the purpose of the flight.

Performance Chart: A chart, table, or graph provided by the aircraft manufacturer for use in determining an aspect of aircraft performance.

Personal Flotation Device (PFD): A life preserver which may have a $C0_2$ charging cartridge and provision for back up inflation by mouth.

Personal Protective Equipment (PPE): Includes clothing and equipment that provides protection to an individual on board an aircraft or who is engaged in ground-based aviation support activities.

Phos-Check: A phosphate based long term fire retardant, a brand name product.

Pilot-in-Command (PIC): The pilot responsible for the operation and safety of an aircraft during flight time. The PIC has final authority over any flight mission.

Pilot Qualifications Card: Documentation carried by the pilot listing the type of aircraft for which the pilot is approved, as well as the different types of missions that he/she is approved to fly.

Pitch Up: The characteristic nose up attitude (short, rapid climb) of the aircraft resulting from load release.

Plastic Sphere Dispenser (PSD): The Plastic Sphere Dispenser is an aircraft mounted device that is used for aerial fire ignition.

Point-To-Point Flight: Typically, the flight originates at one developed airport or permanent helibase, with flight route being direct to another developed airport or permanent helibase. The flight does not usually involve mission-type flight. See **Mission Flight**.

Precautionary Landing: A landing necessitated by apparent impending failure of engines, systems, or components which makes continued flight unadvisable.

Prohibited Area (FAA): Designated airspace within which the flight of aircraft is prohibited.

Prop Blast: The force of air blown backward from the propeller of an airplane.

Public Aircraft: : An aircraft used exclusively in the service of any government. A public aircraft cannot carry passengers or cargo for commercial purposes. See FAR 1.1 for full, unabridged definition.

Radar Altimeter: Aircraft altimeter that reads height above ground level using radar technology.

Ramp (Apron): A defined area on an airport intended to accommodate aircraft for purposes of loading or unloading passengers or cargo, reloading airtankers with retardant, refueling, parking, or maintenance.

Rappeller: Individual who uses the helicopter as a platform to perform rappelling operations for all types of missions to include fire, search and rescue, law enforcement etc.

Reconnaissance: To examine a fire area to obtain information about current and probable fire behavior and other related fire control information. Also known as "Recon."

Reload Base: A facility for reloading air tankers. An airfield where air tankers are reloaded but not stationed permanently.

Remote Hook: Cargo hook that is attached to the end of a long line that has an electrical release.

Restricted Area (FAA): Airspace designated within which the flight of aircraft, while not wholly prohibited, is subject to restriction.

Restricted Category: Aircraft certificated by the FAA but not authorized to carry passengers.

Retardant: Any substance that by chemical or physical action reduces flammability of combustibles.

Retardant Coverage: Area of fuel covered by a retardant. Also degree of coverage on fuel.

Retardant, long-term: Having a chemical retarding action on fire even after water content has evaporated.

Retardant, short-term: A retardant without holding capabilities such as a water or a "wet water" solution.

Rotor Diameter: The width of the main rotor in feet and inches. For planning helispot clearance.

SAM: State Administrative Manual. The governing document for all state administrative issues.

SAR: Search And Rescue

Safety Circle: A safety zone that provides an obstruction-free area on all sides of the touchdown pad. For helispots and helibases, the only items that should be within the safety circle are a fire extinguisher, a pad marker, and, if applicable, external *or* internal loads awaiting transport. The Parking Tender may also be within the safety circle. The size of the safety circle depends on the size of the helicopter.

Sectional, Aeronautical: 1: 500,000 scale chart designed for visual navigation of slow or medium speed aircraft.

See And Avoid: A visual procedure wherein pilots of aircraft flying in visual meteorological conditions (VMC), regardless of the type of flight plan, are charged with the responsibility to observe the presence of other aircraft and to maneuver their aircraft as required to avoid the other aircraft. Right-of-way rules are contained in FAR Part 91

Serious Injury: An injury which:

1. Requires hospitalization for more than 48 hours, commencing within 7 days from the date the injury was received.
2. Results in a fracture of any bone (except simple fractures of fingers, toes, or nose).
3. Causes severe hemorrhages, nerve, muscle, or tendon damage.
4. Involves any internal organ. or
5. Involves second or third degree burns, or any burns affecting more than 5 percent of the body surfaces.

Service Ceiling: Altitude at which the aircraft can no longer climb at a rate of 100 feet per minute.

Short Haul: To transport one or more persons externally suspended below a helicopter.

Show Me Run: A low pass made by an air tactical aircraft to identify a hard to describe target.

Shutdown: The time when all aircraft operations under 1000 AGL over an incident will stop.

SIC: Second-in-Command (Co-Pilot of the aircraft)

Sling Load: An external load supported by a sling, net, bag, line, or combination of these.

Small Aircraft (FAA): Aircraft of 12,500 pounds or less, maximum certified takeoff weight.

Snorkel: A device to fill a fixed tank.

Special Use: Operations which require special considerations due to the functional use of the aircraft. This may require deviation from normal operating practices where authorized by the agency. Special pilot qualifications and techniques, special aircraft equipment, and personal protective equipment are required to enhance the safe transportation of personnel and property.

Stacking: Refers to the vertical deployment of aircraft in orbit or holding orbit over a fire. Aircraft stacked by normal holding airspeeds to provide safety and separation.

Stand By: Means the controller or pilot must pause for a few seconds, usually to attend to other duties of a higher priority or to determine information requested. If a delay is lengthy, the caller should reestablish contact.

Standard Day: Properly known as International Standard Atmosphere (ISA). Atmospheric conditions in which (1) the air is a dry, perfect gas. (2) the temperature at sea level is 59' F. (15° C.). (3) the pressure at sea level (or reduced to sea level) is 29.92 inches of Hg. and (4) the temperature gradient is approximately 31/2' F. per 1,000-foot change in altitude.

Standard Use Helicopter: Helicopter authorized to perform passenger transportation, external and internal cargo missions.

Substantial Damage: Damage or failure which adversely affects the structural strength, performance, or flight characteristics of the aircraft, and which would normally require major repair or replacement of the affected component. Engine failure or damage limited to an engine if only one engine fails or is damaged, bent fairings or cowling, dented skin, small punctured holes in the skin or fabric, ground damage to rotor or propeller blades, and damage to landing gear, wheels, tires, flaps, engine accessories, brakes, or wingtips are not considered "substantial damage".

Sunset And Sunrise: The mean solar times of sunset and sunrise as published in the Nautical Almanac

Swivel: Helicopter accessory used with external jettisonable loads that hooks into the cargo hook or the remote hook. The swivel allows the load to rotate in flight without binding the lines

Tail Rotor: Small rotor system controlling torque effect (lateral direction) of a helicopter.

Taxi: The surface movement of an aircraft equipped with wheels.

Toe-in Landing: The front part of the skids (toes) are placed on some type of ground surface to stabilize the helicopter. Requires agency authorization and training.

Touchdown Pad: A designated area, usually with a prepared or improved surface, on a heliport, airport, takeoff/landing area, apron/ramp, or movement area used for takeoff, landing, or parking of helicopters.

Torque: A twisting force commonly measured in pounds-feet. A force or combination of forces that tends to produce a countering rotating motion

Traffic Pattern (FAA): The traffic flow that is prescribed for landing at, taxiing on, or taking off from an airport. The components of a typical traffic pattern are Base, Crosswind, Downwind, Final and Upwind.

Base: A flight path at right angles to the landing runway or target off its approach end.

Crosswind: A flight path at the right angles to the landing runway or target off its upwind end.

Downwind: A flight path parallel to the landing runway or target in a direction opposite to landing or drop area.

Final: A flight path in the direction of a landing or drop.

Upwind: A flight path parallel to the direction of the final before turning crosswind.

Turnaround Time: Time needed for air tanker or helitanker to reload and return to the fire.

Transponder: The airborne radar beacon receiver/transmitter portion of the Air Traffic Control Radar Beacon System which automatically receives radio signals from interrogators on the ground, and selectively replies with a specific reply pulse

Type (FAA): As used with respect to the certification, ratings, privileges, and limitations of airmen means a specific make and basic model of aircraft, including modifications that do not change its handling or flight characteristics. Examples include DC-7 and F-27 and F-27F

Types of Helicopters: The FAA typing of helicopters (heavy, medium, light) denotes maximum takeoff/landing weight. ICS typing (1-3) denotes minimum number of seats, payload, and water/retardant carrying capability.

UNICOM: A nongovernment communication facility which may provide airport information at certain airports.

Upwind Leg: See Traffic Pattern.

USDA: United States Department of Agriculture

USDI: United States Department of the Interior

Useful Load: The variable portion of an aircraft's total weight. a combination of the payload (passengers, cargo, etc.) and the fuel load.

VFR: Visual Flight Rules.

VHF: Very High Frequency.

Vendor: Operator of aircraft who provides aircraft services through a procurement document.

Vertical Separation: Separation established by assignment of different altitudes or flight levels. See **Stacking**.

Very High Frequency (VHF): The frequency band between 30 and 300 MHz, Portions of this band, 108 to 118 MHz, are used for certain NAVAID's. 118 to 136 MHz are used for civil air/ground voice communications, with certain pre-authorized frequencies for air-to air communications.

Visibility: The ability as determined by atmospheric conditions and expressed in units of distance, to see and identify prominent unlighted objects by day and prominent lighted objects by night. Visibility is reported as statute miles, hundreds of feet, or meters. Refer to FAR 91.

Visual Flight Rules: Rules that govern the procedures for conducting flight under visual conditions. The term "VFR" is also used in the United States to indicate weather conditions that are equal to or greater than minimum VFR requirements. In addition, it is used by pilots and controllers to indicate type of flight plan.

Visual Meteorological Conditions: Meteorological conditions which can be expressed in terms of visibility, distance from cloud, and ceiling equal to or better than specified minimals.

VMC: See Visual Meteorological Conditions

VR Route: Military Training Route conducted under VFR. See Interagency Airspace Coordination Guide.

WATL: Weight vs. Altitude Takeoff and Landing Limits

Wake Turbulence: Phenomenon resulting from the passage of an aircraft though the atmosphere.

Wet Storage: Fire retardants mixed with water and stored in tanks.

Wingspan: The length of a wingspan from tip to tip. Used to make low level flight route adjustments ("Move your drop one wingspan to the right.")

(see next section)

(see HB Table of Contents)

(see Forms or Forms Samples)